



## THE NORTH RIDGE DIFFERENCE

North Ridge Pumps are an independent manufacturer and distributor of pumps. We are part of the DMS Group who have operated within the building services, district heating, process and renewable industries for over 20 years, with a proven track record for product support and customer service throughout the whole of the UK and internationally. Being centrally located in Nottingham, it allows us to service the entire UK.

It was a natural progression to diversify into the pumping industry having regularly received enquiries for pumps, with associated flowmeters. North Ridge Pumps have been established since 1998 and have a wealth of experience in pumping applications, handling fluids from fresh water, seawater and glycols to heavy oil, grease, food and chemicals.

We work within a range of industries, both in the UK and internationally. Our pump types range from standard centrifugal pumps and multistage pumps, to immersed and process overhung solid handling pumps. We also supply a wide range of positive displacement pumps, such as; peristaltic, progressing cavity, screw, vane and gear, allowing us to provide more than one solution for your process and accommodate almost any fluid.

We understand at times associated process equipment may be required alongside your pump; therefore we have become accustomed to supplying pumps complete with control panels, inverter drives, monitoring, couplings, hose, flowmeters and valves.

# **ENGINEERED BEYOND YOUR NEEDS**FOR A RANGE OF MARKET SECTORS

- + Agriculture
- + Aviation
- + Beverage
- + Building Services
- + Chemical Manufacture
- + Decommissioning
- + Energy from Waste
- + Energy Storage Industry
- + Foam Products

- + Food
- + Fuels, Biofuels & Petroleum
- + Household Chemicals
- + Marine
- + Mechanical
- + Mining
- + Oil & Gas
- + Paint Print & Varnish
- + Pharmaceutical

- + Power Generation
- + Pulp & Paper
- + Railway
- + Renewable Energy
- + Rubber & Plastics
- + Surface Treatment
- + Wastewater Treatment





BOMBAS BOYSER, S.L. Boyser was established in 1993 as a manufacturer of Peristaltic Pumps in Barcelona. Two different designs of peristaltic designs were developed according to application requirements.

A roller version was developed for lower pressure applications, these use up to 30% less energy, have increased hose life and can operate at very low speeds making them suitable for a wide range of applications where pressures are less than 8 bar. The shoe version was designed to enable high pressures up to 15 bar to be achieved while handling viscous fluids.

After the success of their peristaltic pumps, Boyser proceeded to develop their own range of lobe pumps capable of dry running, based on the same principles of their peristaltic pumps being easy to maintain, and having a compact design.

Boyser has now grown to produce a range of over 20 different peristaltic pumps, covering a wide spectrum of flowrates up to 76,000L/hour, all manufactured in Spain.

Their range benefits from:

- + Flow rate directly proportional to speed, without slip
- + Reversible
- + Self-Priming up to 9M
- + Low starting torque from 1hz with Roller Pumps
- + Up to 30% energy savings when compared to other designs of Peristaltic pumps
- + Absence of seals and moving parts
- + Single wearing part





# The operating principle of a Peristaltic Pump is defined by its simplicity and advantages















## What are Peristaltic Pumps

#### **OPERATING PRINCIPLES**

Peristaltic pumps are part of the positive displacement volumetric pump group. These pumps have a simplistic, yet extremely robust design that enables them to be used for the most difficult of applications. Applications include the transferring of high viscosity products and fluids where a high concentration of solids are present, many of them being situations where other pumps would fail.

Typical fluids include: Glue, Resins, Ink, Paint, Anti-foaming, Dyes, Detergents, Oils, Concrete, Mud, Sludge and Sewage /Effluent.

The pumping action is performed by a combination of a rubber hose located inside a casing of the pump and a rotor with a set of rollers or shoes compressing the hose as they rotate. By pressing the hose whilst continually rotating, the rollers push the fluid from the inlet side and towards the discharge side of the hose. This gentle pumping action means the flow rate achieved is directly proportional to the speed at which rollers rotate and compress the hose.

The unique pumping action creates a negative pressure on the suction side of the pump of up to 9 m.w.c., meaning the pump can self-prime and reach a suction lift of up to 9 metres vertically, this combined with the ability to run dry indefinitely and handle gasses makes the peristaltic hose pump the ideal solution for most pumping applications.

Another advantage of these pumps is how simple and economical they are to maintain. This is due to the hose being the only wearing part as well as being the only part in contact with the fluid.

#### MAIN FEATURES

- + Self-priming up to 9 m.w.c.
- + Enable to run dry without damage
- Seal-less meaning clogging does not occur
- + Reversible
- + Abrasion-resistant
- + Excellent accuracy +/- 1%
- + Economical and easy-to-maintain
- + Low Shear Pumping Motion
- + Easy to clean

#### **APPLICATIONS**

#### WATER TREATMENT:

Sampling, polymers, Flocculant & Coagulants, Sodium Hypochlorite, Potassium Permanganate, Active Charcoal.











#### ABRASIVE PRODUCT DOSING:

Lime slurry, Carbon slurry, Potassium Permanganate, Mud transfer.

#### **CHEMICAL DOSING:**

Ferric Chloride, Sodium Hypochlorite, Sodium Bisulphite, Polymers.

#### **CHEMICAL INDUSTRY:**

Dosing of all kinds of liquids in process; Dyes, Pigments, Paints, Detergents, Cosmetic reams, Gel, Resins, Latex, Corrosive acids, Inks, Anti-foaming Liquids, Glue, Oils, Peroxide.

#### **FOOD AND BEVERAGE:**

Additive dosing in Bakeries, Beverages, Juices, Sauces, Enzymes, Syrup, Milk, Oils, Oenology, Additives, Liquid Eggs, Jams, Marmalades, Meat products, Mayonnaise.

#### OTHER:

Laboratory, Paper industry, Printing and

packaging, Mortar, Ceramics, Agriculture, Mining, Pharmaceutical industry, Engineering.

#### WHY BOYSER PUMPS?

#### **DESIGN FEATURES**

#### ROBUST BALL BEARING:

The Boyser Gearbox has a robust oversized ball bearing design ensuring the load borne by the pump is shared between the gearbox and motor bearings. The Rotor is also reinforced, adding to durability. Weaker designs have the load absorbed by only the motor bearings.

#### PATENTED HOSE CLAMP:

The parented hose clamp system consisting of only 6 parts is designed to enable quick removal and fitting of the pumps internal hose. It clamps around the hose, ensuring a tight fit without

creating any pressure, deformation, or wear, and does not restrict fluid passage in anyway. The unique patented design means it is the best system available on the market.

#### ROLLER & SHOE:

Designs consist of roller or shoe designs. Roller Designs enable a starting frequency of only 1Hz, allowing pumps to be operated at very low RPM. The roller mechanism enables extended hose life, and energy savings of up to 30% to be made.

Shoe designs enable high pressures to be achieved up to 15 bar with viscous liquids. The ability to select either technology ensures versatility across applications, meaning users have pumps uniquely specified for their process.





The DS-M pumps are our smallest peristaltic pump series, and are commonly used within the Chemical and Food industry. They are typically used for dosing or transferring small amounts of products at low pressure. They have a compact design, whilst remaining powerful reaching discharge heads of 20 Metres.

Pumps have 6 different tube diameters which are interchangeable between the 18 pump sizes/configurations available.

All pumps are fitted with a triple rotor consisting of three rollers. This design feature makes the



DS-M range highly accurate whilst minimising flow pulsations due to the regular movement.

A variation of the DSM is our DS-M/LAB Model designed for laboratory applications where fast, easy tube replacement is required in cleanroom applications, and where single use pass through is utilised.

Multiple hoses can be utilised with this pump quickly, enabling different hoses to be used for varying chemical blends, flavours, and mixtures. Hoses can also be supplied in long lengths for single use applications to prevent cross contamination whilst maintaining production hygiene. This unit is available with an optional built-in inverter drive and LCD Display for feedback and easy calibration.

Our Double head versions of the DSM & DSM Lab Model allow twice the fluid output via a single motor with pump heads operating in conjunction, but with separate suction and discharge lines. These can be used to pump the same or two different fluids separately, achieving the duty of two pumps in one.

#### **TYPES OF TUBE AVAILABLE:**

- + Silicone
- + Norprene® A-60-F
- + Tygon®
- + Noprene® A-60-G
- + Solva®







The AMP Series are heavy duty industrial peristaltic pumps manufactured with roller technology supplied with reinforced rubber hoses, integrated oversized reinforced bearings and rotors designed to perform under the most extreme environments.

The AMP range is available with hose leakage detection, this feature is recommended for applications where the pump is left unattended or when pumping highly corrosive fluids.

They can be supplied either fixed speed or variable speed and are fully reversible. Available with single, three phase or hydraulic motor ensures they are suited for a variety of applications

There are a wide range of accessories available to provide a complete custom solution for most applications, these are detailed below.

#### **TYPICAL APPLICATIONS:**

- + Chemical Dosing.
- + Water Treatment.
- + Food/Beverage Transfer.
- + Construction.
- + Sampling.
- + Mining.
- + Paper Industry.
- + Agriculture.
- + Pharmaceutical.
- + Industrial & Chemical Process Transfer Glue, Resins, Ink, Paint, Anti-foaming, Dyes, Detergents, Oils, Concrete, Mud, Sludge, Sewage.









### Peristaltic Pumps: AMP Series

#### **ACCESSORIES**

#### + PULSATION DAMPENER:

This is fitted downstream from the pump to ensure a smooth and stable flow. This is particularly beneficial when using ancillary equipment such as pressure switches and flow meters or when measuring the product for bottling, packaging and batching.

#### + HOSE LEAKAGE SENSOR:

This is connected to the pump casing and wired to an external control panel. The sensor detects if the internal rubber hose has broken and signals an alarm to warn the operator maintenance is required. This is particularly useful when the pump is unmanned, handling hazardous fluids or running continuously for critical applications.

#### + ANTI-CORROSIVE COATING:

The pump casing can be coated in Halar (ECTFE) for corrosion resistance. This is recommended when the pump is installed in a corrosive or hazardous environment, or handling a liquid which if leaked, could corrode the pump casing.

#### + VARIABLE SPEED DRIVE:

The pump is supplied fixed speed as standard, an inverter can be fitted to the motor to enable variable flow rates, which are desirable for dosing and flow critical applications.

#### + AIR OPERATED VACUUM PUMP:

This is recommended for high suction lifts. The vacuum system ensures the hose does not collapse under extreme conditions and facilitates easier priming for the pump.

#### + SCREW HOPPER FEEDER:

For dry and highly viscous fluids, a hopper /screw system is installed on the inlet side of the pump to enable easy flow of the product into the pump.

#### + MOBILE TROLLEY:

The pump can be supplied on a mobile trolley for moving around site. Bespoke dimensions and materials are available on request.

	AMP-10/B	AMP-13/B	AMP-16/C	AMP-19/C	AMP-22
CAPACITY	145 L/h	239 L/h	580 L/h	775 L/h	1200 L/h
CONNECTIONS	3/8"	3/8"	3/4"	1"	1"
MAX PRESSURE	8 bar	8 bar	8 bar	8 bar	8 bar
WORKING MECHANISM	Rollers	Rollers	Rollers	Rollers	Rollers
HOSES AVAILABLE IN RUBBER	NR, NBR, EPDM, NR-A, NBR-A, HYPALON	NRV, NBR, EPDM, NR-A, NBR-A, HYPALON	NRV, NBR, EPDM NR-A, NBR-A, HYPALON		NR, NBR, EPDM, NR-A ,NBR-A, HYPALON
TUBES AVAILABLE IN THERMOPLASTIC	Norpence®	Norpence®	Norpence®	Norpence®	Norpence®



The FMP hose pumps are our largest peristaltic pumps fitted with roller technology, these units are equipped with reinforced hoses and rotors, heavily engineered integrated bearings, enlarged Polyurethane (PU) rollers as well as our patented clamping system.

Thanks to its robust design and wide capacity range these peristaltic hose roller pumps are typically used in heavy duty industrial applications where the pump is a critical component in the process, hence reliability is quite simply a must. Our hose pumps are available with integrated frequency drives, VFD rated drive units, certified ATEX, (explosion proof) motors and hydraulic motors.

Another advantage of these pumps is how simple and economical they are to maintain. This is due to the fact that the hose is both the only wearing part in the pump and the only part that is in contact with the fluid.

The FMP range can be supplied either fixed speed or variable speed and is fully reversible. There are a wide range of accessories available to provide a complete custom solution for most applications, these are detailed below.

#### **TYPICAL APPLICATIONS & INDUSTRIES:**

- + Chemical Dosing.
- + Water Treatment.
- + Food/Beverage Transfer.
- + Construction.
- + Sampling.
- + Mining.
- + Paper Industry.
- + Agriculture.
- + Pharmaceutical.
- + Industrial & Chemical Process Transfer Glue, Resins, Ink, Paint, Anti-foaming, Dyes, Detergents, Oils, Concrete, Mud, Sludge, Sewage.









### Peristaltic Pumps: FMP Series

#### **ACCESSORIES**

#### + PULSATION DAMPENER:

This is fitted downstream from the pump to ensure a smooth and stable flow. This is particularly beneficial when using ancillary equipment such as pressure switches and flow meters or when measuring the product for bottling, packaging and batching.

#### + HOSE LEAKAGE SENSOR:

This is connected to the pump casing and wired to an external control panel. The sensor detects if the internal rubber hose has broken and signals an alarm to warn the operator maintenance is required. This is particularly useful when the pump is unmanned, handling hazardous fluids or running continuously for critical applications.

#### + ANTI-CORROSIVE COATING:

The pump casing can be coated in Halar (ECTFE) for corrosion resistance. This is recommended when the pump is installed in a corrosive or hazardous environment, or handling a liquid which if leaked, could corrode the pump casing.

#### + VARIABLE SPEED DRIVE:

The pump is supplied fixed speed as standard, an inverter can be fitted to the motor to enable variable flow rates, which are desirable for dosing and flow critical applications.

#### + AIR OPERATED VACUUM PUMP:

This is recommended for high suction lifts. The vacuum system ensures the hose does not collapse under extreme conditions and facilitates easier priming for the pump.

#### **+** SCREW HOPPER FEEDER:

For dry and highly viscous fluids, a hopper/screw system is installed on the inlet side of the pump to enable easy flow of the product into the pump.

#### + MOBILE TROLLEY:

The pump can be supplied on a mobile trolley for moving around site. Bespoke dimensions and materials are available on request.

	FMP-30	FMP-40	FMP-50/B	FMP-60	FMP-70	FMP-80
CAPACITY	2000 L/h	3900 L/h	5200 L/h	11200 L/h	18500 L/h	21000 L/h
CONNECTIONS	11/4"	11/2"	DN40	DN50	DN65	DN80
MAX PRESSURE	8 bar	8 bar				
HOSE TIGHTENING SYSTEM	Rollers	Rollers	Rollers	Rollers	Rollers	Rollers
HOSES AVAILABLE IN RUBBER	NR, NBR, EPDM, NR-A, NBR-A	NR, NBR, EPDM				
TUBES AVAILABLE IN THERMOPLASTIC	Norpence®	Norpence®	Norpence®	Norpence®		



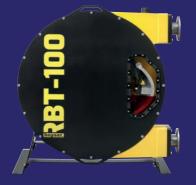
**RBT Series** 

The RBT peristaltic hose pumps are high pressure positive displacement pumps, this range of pumps have a maximum design pressure of 15 bar, meaning they have the ability to transfer highly viscous fluids at long distances or high pressures making this range of pumps popular within the mining and construction industry.

This type of pump has a working movement consisting of shoes, housed within a lubricant immersed housing, ensuring high pressures can be generated without slip.

This range is available with integrated frequency drives, VFD rated drive units, certified ATEX, (explosion proof) motors as well as hydraulic motors, these units are also equipped with reinforced hoses and rotors, heavily engineered integrated bearings, enlarged PU rollers as well as our patented clamping system making them suitable for pumping almost any fluid.

The RBT range can be supplied either fixed speed or variable speed and is fully reversible. There are a wide range of accessories available to provide a complete custom solution for most applications, these are detailed below.





### **TYPICAL APPLICATIONS** & INDUSTRIES:

- + Chemical Dosing.
- + Water Treatment.
- + Food/Beverage Transfer.
- + Construction.
- + Sampling.
- + Mining.
- + Paper Industry.
- + Agriculture.
- + Pharmaceutical.
- + Industrial & Chemical Process Transfer - Glue, Resins, Ink, Paint, Anti-foaming, Dyes, Detergents, Oils, Concrete, Mud, Sludge, Sewage.





## Rotary Industrial Pumps: RBT Series

#### **ACCESSORIES**

#### + PULSATION DAMPENER:

This is fitted downstream from the pump to ensure a smooth and stable flow. This is particularly beneficial when using ancillary equipment such as pressure switches and flow meters or when measuring the product for bottling, packaging and batching.

#### + HOSE LEAKAGE SENSOR:

This is connected to the pump casing and wired to an external control panel. The sensor detects if the internal rubber hose has broken and signals an alarm to warn the operator maintenance is required. This is particularly useful when the pump is unmanned, handling hazardous fluids or running continuously for critical applications.

#### + ANTI-CORROSIVE COATING:

The pump casing can be coated in Halar (ECTFE) for corrosion resistance. This is recommended when the pump is installed in a corrosive or hazardous environment, or handling a liquid which if leaked, could corrode the pump casing.

#### + VARIABLE SPEED DRIVE:

The pump is supplied fixed speed as standard, an inverter can be fitted to the motor to enable variable flow rates, which are desirable for dosing and flow critical applications.

## + AIR OPERATED VACUUM PUMP:

This is recommended for high suction lifts. The vacuum system ensures the hose does not collapse under extreme conditions and facilitates easier priming for the pump.

+ SCREW HOPPER FEEDER: For dry and highly viscous fluids, a hopper/screw system is installed on the inlet side of the pump to enable easy flow of the product into the pump.

#### + MOBILE TROLLEY:

The pump can be supplied on a mobile trolley for moving around site. Bespoke dimensions and materials are available on request.

	RBT-25/B	RBT-32/B	RBT-40	RBT-60	RBT-70	RBT-80	RBT-100	RBT-100D
CAPACITY	1.5m³h	2.8m³h	4.9m³h	11.5m³h	16m³h	21m³h	36m³h	65m³h
CONNECTIONS	DN-25	DN-32	DN-40	DN-50	DN-65	DN-80	DN-100	DN-100
MAX PRESSURE	15 bar	15 bar	15 bar	15 bar	8 bar	15 bar	8 bar	8 bar
WORKING MECHANISM	Shoes	Shoes	Shoes	Shoes	Shoes	Shoes	Shoes	Shoes
HOSES AVAILABLE IN RUBBER	NR, NBR, EPDM, NR-A, NBR-A	NR, NBR, EPDM	NR, NBR, EPDM	NR, NBR, EPDM				



Boyser Lobe Pumps are available with either Rubber or Metallic lobes ensuring suitability for a range of Fluids. Producing a maximum pressure of 10 bar and flows up to 92M³H, they are designed for industrial and hygienic applications which require a low shear pumping motion, high flows, with a continuous non pulsating flow in a compactly designed unit. Liquid temperatures of up to 120°C can be accommodated.

Lobe Pumps are self-priming, allowing solid passage up to 50mm. An internal wear plate ensures the pump head is not worn by aggressive liquids and can be easily replaced as wear builds.

For Hygienic applications surface roughness tests are available with polishing to <0.4micron approved by EHEDG. A double mechanical seal provides assurances the medium will not leak.

Lobe pumps are easy to maintain and clean by removal of the front plate enabling easy access and replacement of all internal parts.



#### **FEATURES:**

- + Self Priming up to 6M
- + Reversible Allowing versatility across applications, and recovery of fluid from hoses.
- + WEAR-RESISTANT:

Casing is manufactured in Stainless Steel. Pump head also contains wear plates- Allowing cost effective replacement as the casing is not worn

+ CONTINUOUS FLOW:

The non-pulsating lobes produce a continuous linear pumping motion.

**+** LOW COST AND EASY MAINTENANCE:

Pump Parts are accessed by removal of the front cover plate, allowing easy access without removal from the baseplate

+ LARGE SOLID PASSAGE:

Up to 50mm

+ Rubber coated or metallic lobes allowing utilisation with aggressive chemicals, or in hygienic applications.

#### **COMPACT DESIGN:**

#### + INTERMEDIATE CHAMBER:

To eliminate the possibility of cross contamination between lubricants in the gear box and any liquid being pumped, a gap between the two housings is present. Should seal failure occur in either the gear box or pump head, fluid enters the space and can be easily seen rather than cross contaminate.



## Peristaltic Pumps: Lobe Series



#### + FOOD:

Wine, Olive Oil, Vegetable Oil, Molasses, Pressed Olive Waste, Fermented Grapes, Glucose, Tomato Concentrate, Chocolate.

#### + INDUSTRIAL:

Sludge, Slurries, Manure, Effluent, Crude Oil, Glue, Inks, Paint, Fuel Oil.

#### + MINING:

Bentonite, Ceramic Slips, Calcium Carbonate.

#### + OII & GAS:

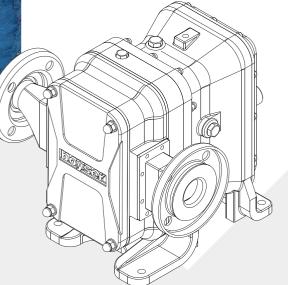
Seawater, Crude-Oil products, Oily Sludge, Marine spills, Mud.

#### + PHARMACEUTICAL:

Detergents, Surfactants, Glycerine.

#### + WASTEWATER:

Membrane Bioreactor (MBR) Filtration, Effluent, Sewage.



#### **ACCESSORIES**

#### + CUSTOM INLET & OUTLET CONNECTIONS:

Gooseneck connections are available ensuring the pump suction port remains fully filled with fluid. This ensures a vacuum can be created more easily, even should the lobes become heavily worn. Gooseneck pipework also ensures the conveying of gas bubbles which may form within a liquid.

#### + VERTICAL OUTLET CONNECTIONS:

Allow pumps to remain compact in design. Connections can be flanged, or according to hygienic / pharmaceutical requirements for speed of cleaning or removal from pipework.

#### + PRESSURE CONTROL:

Units can be fitted with a Pressure Switch preventing pump operation at pressures likely to damage the system or pump. Alternatively, a torque limiter detects when the working action of the pump becomes strenuous preventing the pump from generating excess pressure. They can also be used to prevent pumps from dry running.

#### + BYPASS:

If pressure control is undesired, units can be configured with bypass valve pipework connected to pumps, allowing fluid to recirculate back to the pump inlet should pipework become blocked.

#### + MODULAR CONFIGURATION:

Units can be baseplate mounted, mounted on trolleys allowing portability and complete with control panels allowing easy control of flow.

#### + HOPPER WITH AUGER FEED SCREW:

Allowing the pumping of high quantities of suspended solids, and ensuring fluids are fed into the pump for transfer.

#### + DRIVE OPTIONS:

Motors are available with dual frequency, or hydraulic drive to accommodate most drive requirements.

	LBS/70	LBS/90	LBM/100	LBS/125
CAPACITY	0,91 l/rev	1,17 l/rev	2,79 l/rev	3,49 l/rev
CONNECTION	DN-65/DN-80 flanges	DN-65/DN-80 flanges	DN-80/DN-100 flanges	DN-100/DN-125 flanges
OPERATING PRESSURE	<10 bar	<6 bar	<8 bar	<4 bar
RUBBER COATED ROTORS	NBR, EPDM, KFM	NBR, EPDM, KFM	NBR, EPDM, KFM	NBR, EPDM, KFM
METALLIC ROTORS AVAILABLE	AISI-316, AISI-420	AISI-316, AISI-420	AISI-316, AISI-420	AISI-316, AISI-420
PUMP-BODY MATERIAL	AISI-316, AISI-410	AISI-316, AISI-410	AISI-316, AISI-410	AISI-316, AISI-410
MECHANICAL SEALS	Carb. Silicon/Carb. Tungsten, Graphite /Carb. Tungsten			
OTHER CONNECTIONS AVAILABLE	DIN 11851 NW, Tri-clamp, SMS, Fast adaptors, ANSI flanges, etc.	DIN 11851 NW, Tri-clamp, SMS, Fast adaptors, ANSI flanges, etc.	DIN 11851 NW, Tri-clamp, SMS, Fast adaptors, ANSI flanges, etc.	DIN 11851 NW, Tri-clamp, SMS, Fast adaptors, ANSI flanges, etc.
HOSES AVAILABLE IN RUBBER	NR, NBR, EPDM NR-A, NBR-A	NR, NBR, EPDM NR-A, NBR-A	NR, NBR, EPDM, NR-A, NBR-A	NR, NBR, EPDM, NR-A, NBR-A

# Accessories for Peristaltic Pumps

#### **PULSATION DAMPERS**

Pulsation Dampener: Inline pulsation dampeners in Flexible or Rigid Construction to remove pulsations & pipework vibration. They ensure pumps provide a linear flow for high Flow Meter accuracy or flow control devices.

#### **VACUUM DEVICE**

This enables the pumping of high viscosity products which can be difficult to prime. The vacuum pump is installed within the pump casing and is operated via a compressed air line. It creates a vacuum within the pump casing causing the hose after compression to recover its shape fully, maintaining flow, and pressure.

#### **HOSE LEAKAGE SENSOR**

Should a hose become damaged; fluid can leak inside the pump casing causing corrosion. It is also possible for pumps to be installed in remote locations where units are not inspected frequently. Installation of a hose leakage sensor enables operators to know when a hose has been damaged which can stop the pump or operate an alarm enabling the hose to be replaced immediately.

#### CHEMICAL COATING

Pumps can be Halar coated providing enhanced chemical protection against any fluids which may come into contact with the casing preventing chemical attack and prolonged casing life.

#### HOPPER AUGER FEED SCREW

This allows high dry solid content to be pumped, which would otherwise be unable to be pumped as the unit is continuously fed with material.

#### **DOSING EQUIPMENT**

Pumps are available with PLC control, inverter and touch screen to allow users to easily allow volumetric metering with records kept of amount dosed, totalizer. Speed can be automatically controlled and easily calibrated by operators.

#### **FLANGES**

Flanges are available in Stainless Steel, Polypropylene or PVDF to enable compatibility with multiple fluids of varying concentrations without suffering chemical attack.

#### FREQUENCY INVERTER

To allow variable transfer rates.

#### REMOTE CONTROL

Wireless control of pump units from over 100M away, allowing control of start, stop, reversing and pump speed.

#### **OVER PRESSURE SENSOR:**

Built in over pressure sensor to eliminate the requirement for a pressure relief valve.

#### SKID MOUNTED

Skid mounted to ensure portability on site.

#### **BESPOKE SKIDS**

Completely bespoke units with integrated controls. Units can function as a transfer, process or dosing skid with any accessory required in one prefabricated requirement.





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